

RUB, M.G.; ONIKHIMOVSKIY, V.V.; BAKULIN, Yu.I.; GLAVATSKAYA, V.N.;
KOSHMAN, P.N.; MAKEYEV, B.V.; RASTUNTSEV, A.P.; SELEZNEV, P.N.;
TERENTENKO, N.A.; YANONIS, V.V.; KOPTEV-DVORNIKOV, V.S., otv.red.;
ANDREYEV, Yu.K., red.izd-va; GOLUB', S.P., tekhn.red.

[Granitoids of the Myao-Chansk region and postmagmatic formations
associated with them] Granitoidy Miao-Chanskogo raiona i svyazannye
s nimi postmagmaticheskie obrazovaniya. Moskva, Izd-vo Akad.nauk
SSSR, 1962. 168 p. (Akademiya nauk SSSR. Institut geologii
rudnykh mestorozhdenii petrografii, mineralogii i geokhimii.
Trudy, no.62). (MIRA 15:8)

(Kharbarovsk Territory--Granite)

5(3)

SOV/71-59-3-17/23

AUTHOR: Koshman, S.V. and Gerasimenko, V.V.

TITLE: Utilization of Diammonium-Phosphate as Phosphorous Nutrition in Processing Molasses to Alcohol (Primeneniye diammoniyfosfata v kachestve fosfornogo pitaniya pri pererabotke patoki na spirt)

PERIODICAL: Spirtovaya promyshlennost', 1959, Nr 3, pp 39-41 (USSR)

ABSTRACT: The Dublyanskiy spirtovyy zavod (Dublyanskiy Alcohol Plant) started using in April 1958, as phosphorous nutrition for yeast, technical diammonium phosphate, which is inaggressive in regard to iron and easily dissoluble in water. In view of the fact that laboratory tests were performed with plant yeast, the tests permitted only to ascertain that the diammonium phosphate was non-toxic for yeast and did not lower its fermenting activity. The initial norm was set at 99 kg of diammonium phosphate per 1,000 dkl, which is equivalent of 330 kg of superphosphate per 1,000 dkl with respect to P_2O_5 content. In May the norm was set at 20 kg of diammonium phosphate per 1,000 dkl (approaching the norm of phosphoric acid which is 13.5 kg per 1,000 dkl). Since the end of May the norm was reduced to 10.2 kg of diam-

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Utilization of Diammonium-Phosphate as Phosphorous Nutrition in Processing Molasses to Alcohol

monium-phosphate. Results shown in Table 2 prove that the employment of diammonium-phosphate did not interfere unfavorably with the technological process. The introduction of diammonium-phosphate containing more than 20% of nitrogen in a form easily absorbed by yeast, permits to stabilize nutrition of yeast and to contribute toward a rhythmic development of the technological process. Table 3 shows that the quality of the alcohol has not changed as a result of utilization of diammonium-phosphate instead of superphosphate. There are: 1 block-diagram and 3 tables.

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L 00841-67

ACC NR: AR6011097

SOURCE CODE: UR/0272/65/000/011/0098/0098

AUTHORS: Semenenko, V. A.; Chernikov, N. A.; Koshman, V. I.

TITLE: The BP-1²⁶ (II or III) arcproof power supply¹⁰ for the SDK-60-I²⁴ pressure alarm⁶¹ and the UUZhEK-60-I²⁶ electric marine-type liquid-level indicator¹⁰

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika, Abs. 11.32.821

REF SOURCE: Sb. nauchn. tr. Gos. in-t po proyektir. i issled. vzyvobezopasn. elektrooborud. Giproniselektroshakht, vyp. 2, 1964, 56-58

TOPIC TAGS: power supply, paramstar, transformer, electric capacitor, resistor, liquid level indicator, pressure measuring instrument/ BP-1 power supply, UUZhEK-60-I liquid level indicator, SDK-60-I pressure measuring instrument

ABSTRACT: The technical characteristics and the electric circuit of the BP-1 power supply are given. It has a power of 10 va and was designed at the Giproniselektroshakht Institute. The arc protection of each output of the unit is achieved by limiting resistors and shunt capacitors which were experimentally matched for the selected parameters of the transformer. 1 illustration. [Translation of abstract]

SUB CODE: 09

Cord 1/1 pb

UDC: 389.531.787:681.128

KOSHMAN, V.N.

Reducing low-frequency vibrations affecting a tractor operator.
Trakt. i sel'khoz mash. no. 4:3-6 Ap '65. (MIRA 18:5)

1. Minskiy traktorny zavod i Belorusskiy institut mekhanizatsii
sel'skogo khozyaystva.

VINIOLI, Ivan Ivanovich; RAPOPORT, S.I., inzh., retsenzent; LIPOVETSKIY, I.A., inzh., retsenzent [deceased]; MOROZOV, I.M., inzh., retsenzent; SINEL'NIKOV, G.V., inzh., retsenzent; GARBUZOV, N.A., inzh., reysenzent; ~~KOSHMAN, Ye.G., inzh., retsenzent~~; GURVITS, A.I., inzh., red.; GOLYATKINA, A.G., red. izd-va; ATTOPOVICH, M.K., tekhn. red.

[Mechanical and conveyor equipment of steel smelting plants] Mekhanicheskoe i transportnoe oborudovanie staleplavil'nykh tsekhov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 432 p. (MIRA 14:10)

(Open-hearth furnaces—Equipment and supplies)
(Materials handling)

KORYAUSHKIN, G.M.; KOSHMANOV, V.N.

Worthy contribution of efficiency innovators. Avt.dor.19 no.8:
32 Ag '56. (MLRA 9:10)
(Moscow--Roads--Maintenance and repair)

POPEREKA, M.Ya. & KOSIMANOV, V.V.

Effect of the cathode surface material on the internal stresses in
zinc deposits. Zhur.prikl.khim. 38 no.6:1296-1300 Je '55. (MIRA 18:10)

L 42960-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6024987

SOURCE CODE: UR/0081/66/000/007/B127/B127

AUTHOR: Koshmanov, V. V.; Popereka, M. Ya.

27
B

TITLE: Microstructures of electrodeposited zinc

SOURCE: Ref. zh. Khimiya, Part I, Abs. 7B968

REF SOURCE: Sb. Elektroosazhd. met. i ul'trazvuk. mikrodefektoskopiya kristallov. Novosibirsk, 1965, 41-54

TOPIC TAGS: zinc plating, electrodeposition

ABSTRACT: The effect of the concentration of $ZnSO_4$ (I), inorganic cations and anions, organic molecules, and current density on the grain size of zinc electrodeposits was investigated. As the concentration of I increases, the grain decreases in size at first, then increases. As the concentration of $MgSO_4$ and Na_2SO_4 rises, the grain increases up to a certain content, then decreases. Low concentrations of the inorganic admixtures Cl^- and BF_4^- and of organic substances cause a refinement of the grain, and high concentrations cause the grain to coarsen. The influence of the admixtures is attributed to the mechanism of their physical adsorption, which in some cases is complicated by the reduction of the admixtures at the cathode and by their chemical reaction with the metal surface. N. Turkina. [Translation of abstract]

SUB CODE: 13, 11/

Card 1/1

POPEREKA, M.Ya.; KOSHMANOV, V.V.

Effect of electrolyte composition on the structure and internal stresses of zinc deposits. Zhur.prikl.khim. 38 no.9:2011-2017 S '65. (MIRA 18:11)

POPEREKA, M.Ya.; KOSHMANOV, V.V.

Structure and internal stresses of zinc electrodeposited in the presence of alcohols. Izv.vys.ucheb.zav.; khim.i khim.tekh. 7
no.6:967-972 '64. (MIRA 18:5)

1. Novosibirskiy pedagogicheskiy institut i Krasnoyarskiy politekhnicheskiy institut.

POPEREKA, M.Ya.; KOSHMANOV, V.V.

Effect of organic additives on crystallization stresses and the
microstructure of zinc deposits. Izv. vys. ucheb. zav.; tsvet.
met. 8 no.1:73-79 '65. (MIRA 18:6)

1. Novosibirskiy pedagogicheskiy institut, kafedra obshchey
fiziki.

KOSTERIN, S.I.; KOSHMAROV, Yu.A.

Calculating the resistance and heat exchange of bodies in a
gas flow having boundary turbulent layers. Inzh.-fiz.zhur.
no.7:3-10 J1 '58. (MIRA 11:8)

1. Energeticheskiy institut AN SSSR, Moskva.
(Heat--Radiation and absorption) (Fluid dynamics)

SOV/81-59-10-35100

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 10, p 252 (USSR)

AUTHOR: Koshmarov, Yu.A.

TITLE: The Resistance and Heat Exchange [^] in a Turbulent Liquid Flow [^] at the Presence of Lengthwise Negative and Positive Pressure Gradients

PERIODICAL: Nauchn. tr. Mosk. lesotekhn. in-t, 1958, Nr 9, pp 124 - 164

ABSTRACT: The motion of a liquid in a turbulent boundary layer at the presence of negative and positive pressure gradients (PG) along the flow has been investigated. It has been established that with an increase in the absolute value of the negative PG the profile of the velocities becomes less steep, but the profile of the temperatures steeper (in this case the friction coefficient increases); with an increase in the positive PG the velocity profile becomes steeper, and the temperature profile less steep. A method is given for calculating the friction coefficient and the process of heat exchange in the presence of positive and negative PG. (✓)

V. Gertsoskiy

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Koshmarov

Yv. A.

PLASTIC BOOK INFORMATION BOY/PLAT

Abstracts until 1959. Bioregistrability Institute for O.R. Registration
 Problems generally; boron polyacetylene, aluminum O.R. Registration
 Problems of Power Engineering; Collection of Articles Related to Ac-
 cidents O.R. Registrability Moscow, 1959. 51 p. Errors only inserted.
 2,500 copies printed.

No. of Publishing House: B.D. Artamonov, P.Y. Dobry, P.I. Zolov, and
 A.M. Krupskii, Zhuk. K.M. Kuznetsov, Editorial Board: A.V. Vlasov,
 I.I. Gerasimov (Institute), V.I. Popov (Serp. K.), Corresponding Member,
 Academy of Sciences U.S.S.R., V.I. Popov, A.S. Predvoditel'skiy, M.A. Krupskii,
 E.Y. Gerasimov, V.M. Bogdanov, Candidate of Technical Sciences, B.I. Zolov,
 Candidate of Technical Sciences, M.M. Lobov, Candidate of Technical Sciences,
 and I.S. Smolov.

REMARK: This collection of articles is intended as a tribute to the memory of Academician O.K. Rzhishansky.

CONTENTS: The collection contains fifty articles by former students and associates of the deceased Academician. The articles deal with problems of a wide range of subjects in the field of power engineering problems of the regional development of electrical and thermal power engineering; power engineering technology and the physics of combustion. In particular, there are mentioned, references are given after most articles.

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Stewart, A. O. Methods of Determining Technical-Economic Indices of Rural Electrical Networks 174

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<p> <u>Patrons: F. E. I. L. Franklin and A. O. Morgan</u> <u>Group Contribution to the fund</u> </p>	<p> <u>Reference of an Electric</u> <u>104.</u> </p>
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Fuchs, I.E. Investigation of the Spring Constant as a Function of
Factorial Unit

Sokolov, S.A. Extremely Long-Distance Transmissions of
Signals

800 Kv _____
Robbing, M.D., Static Condensers for Transverse Compression of Long-
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Formanik, V.A. Effect of Forcing and Regulating Excitation on the Stability of Long-Distance Transmissions

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Mont'yer, A.L. Calculation of Turbulent Friction in the Flow of a Compressed Gas Around a Flat Plate

Yashchenkov, N.A. Investigation of the structure of an Axially-
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Decker, C.S. Conditions for Representing Hotting Systems With Plasma
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Minopol'sky, Z.I. & M.A. Syrtkovich, M. Ye. Diltman. Boat Trans-
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Kozlov, S.I., Yu.A. Koshmarov, Calculation of Resistance and of Best Exchange in a Stream of Uncompressed Liquid in the Presence of a Positive Pressure Gradient

S/170/60/003/07/01/011
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10.7000

5.1230

AUTHORS:

Kosterin, S. I., Koshmarov, Yu. A.

TITLE:

The Choice of the Determining Temperature in Calculating
Convective Heat Exchange And Friction Under Gas-dynamic
Conditions

PERIODICAL:

Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 7,
pp. 3 - 9

TEXT: Some results of the analysis of existing methods used to calculate the turbulent boundary layer of a compressible gas were presented in the authors' paper (Ref. 1). The dependence of the determining temperature on the number Re_θ was confirmed by these results. The results of further investigations on the problem of choosing the determining temperature are given here. The theoretical and experimental data on the turbulent boundary layer having no gradient on a smooth plane plate were used in these investigations. It follows from all known theoretical solutions of the problems of flow around a plate (Refs. 1,2,3) that the determining temperature depends greatly on the θ

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The Choice of the Determining Temperature in S/170/60/003/07/01/011
Calculating Convective Heat Exchange and B012/B054 82229
Friction Under Gas-dynamic Conditions

Reynolds number, irrespective of the rules governing the resistance and heat exchange of incompressible liquids. On the basis of the rule found in the paper (Ref. 2) governing the drag in a compressible liquid, and of the rule governing an incompressible liquid (Ref. 4), formula (1) is obtained for the determining temperature if the wall temperature $T_w = 1$. It indicates that the latter depends not only on the Mach number M but also on Re_{δ_w} (according to the thickness of the boundary layer and the gas parameters on the wall). Fig. 1 shows a diagram of the theoretical curves for the determining temperature. These curves were drawn on the basis of formula (1) and data from the papers (Refs. 4, 9, 10, 12). They all show that the determining temperature depends on the number Re_{δ_0} . This is confirmed by the analysis of experimental data. Fig. 2 shows the determining temperature as a function of the Mach number M (obtained from investigations of friction on a plane plate). The considerable spread of experimental data can be explained by the dependence of the determining temperature on the

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The Choice of the Determining Temperature in
Calculating Convective Heat Exchange and
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number Re_{θ_0} . This diagram shows that the formula by V. M. Iyevlev (Ref. 5) does not agree with the experiment. It is shown that the calculation methods used in the paper (Ref. 1) can be rendered even more accurate by using the "local" values instead of the mean values of the determining temperature in the zone investigated with the changing number Re_{θ_0} . These "local" values of the determining temperature correspond to any cross section of the boundary layer. For this purpose, the "local" value of coefficient B is introduced into the formulas. Fig. 3 shows a diagram of the B-values; the determining temperature was calculated from formula (8). The formulas, (9) - (11), for determining B are obtained from the diagram. They apply to the following ranges only:

$Re_{\theta_0} = 10^3 \div 10^4$, $\bar{T}_w = 1 \div 0.5$, and $M = 1 \div 10$. The law of drag can be obtained by means of the formulas for the determining temperature. The results of the generalization of experimental data of friction on a flat plane are diagrammatically shown in Fig. 4. It is pointed out that many experiments confirm the very small influence of the negative pres-

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The Choice of the Determining Temperature in
Calculating Convective Heat Exchange and
Friction Under Gas-dynamic Conditions

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sure gradient on friction and heat exchange in the turbulent layer of
an incompressible liquid. It may be assumed that this also applies to
a compressible gas. There are 4 figures and 14 references: 7 Soviet and
7 British.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo, ✓
g. Moskva (Institute of Power Engineering imeni
G. M. Krzhizhanovskiy, Moscow)

Card 4/4

FINAT'YEV Ye. P.
KOSHMAROV, Y. A., and ~~ZHEMKOV~~

"Hydrodynamics and Heat Transfer of a Turbulent Gas Flow
Between Concentric Rotating Cylinders at Longitudinal Motion of
a Gas."

Report submitted for the Conference on Heat and Mass Transfer, Minsk
BSSR, June 1961.

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S/170/61/004/004/001/014
B116/B203

26.2/60

AUTHORS:

Kosterin, S. I., Koshmarov, Yu. A., Osipov, Yu. V.

TITLE:

Effect of the divergence angle on the position of the compression jump in a supersonic nozzle under uncalculated conditions with existence of a heat exchange

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 4, 1961, 3-9

TEXT: The present paper gives results of experimental studies of a flat supersonic nozzle with wedge-shaped supersonic part under uncalculated conditions with existence of a heat exchange. Relations between the divergence angle of the supersonic part of the nozzle and the position of the compression jump are obtained. The results are generalized for the case of axisymmetric, conical nozzles. Some recommendations for calculations are given. A flat model of a supersonic nozzle was prepared. The investigations were carried out in the range of those Re and M numbers which determine flow conditions and heat exchange characteristic of real engines. The medium used was compressed air delivered from a piston compressor (0.2 kg/sec at 8 atm). The compressed air was heated in an

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electric furnace, then passed to the test stand, and from there via three coolers and four forepumps conducted into the open air (Fig. 1). The flow part of the nozzle was formed by two symmetrical, movable jaws. The angle of the supersonic part could be varied between 0 and 50°. The nozzle entrance was formed by two symmetrical arcs. Thus, the subsonic part maintained the same form in all experiments. The thickness of the boundary layer at the front sides of the plates (holding the jaws together) was calculated by the method of Kalikhman (Ref. 6: M. Ye. Kalikhman, *Gazodinamicheskaya teoriya teploobmena. (Gasdynamic theory of heat exchange). Oborongiz, 1946*), and was less than 1 mm at the nozzle end. The critical cross section of the nozzle model was 31 mm high, and 6.82 mm wide. For measuring the distribution of static pressures over the length of the nozzle, 14 bores (0.8-0.9 mm diameter) were made every 15 mm along the axis of the nozzle canal. In visual observation, the static pressures were measured on the nozzle wall formed by the movable jaw with 14 bores of the same diameter. For an accurate determination of the compression zone and the burble point of the boundary layer, the authors made visual studies with photographs of the flow. Fig. 2 gives the results of evaluation of experimental data. A special investigation showed that the

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change in flow parameters due to the variable thermal conductivity of the gas along the nozzle can be neglected up to $M = 3.5-4.0$. The experiments showed that a system of overlapping curved compression jumps was formed in the nozzle under all conditions. The values of $(F_{\text{jump}}/F_*)_w$, $(F_{\text{jump}}/F_*)_0$, (p_0'/p_{00}) , and (p_0''/p_{00}) were determined for every divergence angle and every mode of operation according to the measurements along the flow axis and on the nozzle wall. F_{jump} is the cross section area where the jump drops, F_* is the area of the critical cross section, p_0' is the static pressure before the jump, and p_0'' that after the jump; the index w refers to the parameters on the nozzle wall, and the index 0 to the parameters measured along the flow axis. Fig. 3 shows that the ratio $p_0'/p_0 \approx p_0'/p_a$ does not maintain the value of 0.4 recommended by Sammerfield (Ref. 3: M. Sammerfield Jet Propulsion, vol. 24, no. 5, 1954). Fig. 4 illustrates the experimentally established effect of the divergence angle α on the position of the compression jump; it also considers results found by K. Scheller and D. A. J. Bierlein (Ref. 2: Amer. Rock., Soc., vol. 23,

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no. 1, 1953) and by M. Ye. Deych (Ref. 1: Tekhnicheskaya gazodinamika. (Technical gas dynamics), 1953). The position of the compression jump $(F_{\text{jump}}/F_*)_w = f(\alpha)$ can be determined from diagrams (as shown in Fig. 4), but it is more convenient to use empirical formulas. The authors recommend empirical formulas established on the basis of an approximation of the experimental results obtained, for the position on the nozzle wall: $(F_{\text{jump}}/F_*)_w = 1.5 + 0.23 (p_{00}/p_a) - K\alpha^n$, and on the flow axis: $(F_{\text{jump}}/F_*)_0 = 1.5 + 0.23 (p_{00}/p_a) + K\alpha^n$, where $K = f(p_{00}/p_a)$. In the range of divergence angles between 0 and 15°, K may be assumed equal to zero; between 15 and 50°, K is determined from $K = 0.00645(p_{00}/p_a) - 0.029$. $n = 0.95 \frac{p_{00}}{p_a} - 0.98$. The formula for determining the jump peak holds for flat nozzles, and should be checked for round ones. With the aid of the experimentally found relations it is also possible to establish approximately the shape of the jump within a flat, conical nozzle for various divergence angles, and to determine the angle β_{jump} of the oblique jump. It was found that the shape of the jump greatly depended on the nozzle

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Heat exchange in..

S/258/62/002/001/004/013
1028/1228

0.15 and 0.2 kg/sec. The distribution of the M and P numbers and the specific heat flux along the nozzle wall determined in the experiments is presented graphically. The dependence of the Stanton number St on Re was established for different divergence angles and compared with the corresponding dependence for a non-gradient stream. The pressure gradient has no influence on the heat exchange law, and therefore the empirical formula found for the simplest case of nongradient flow remains true for the case considered. This formula is presented in the general form:

$$St = A \eta Re_p^{-0.25}$$

(17)

and a simplified method of calculation of the heat transfer in the boundary layer of supersonic nozzles obtained with its aid. There are 6 figures and 1 table

INSTITUTION: Institut mekhaniki AN SSSR (Institute of Mechanics AS USSR)

SUBMITTED: November 22, 1961

Card 2/2

40032

S/258/62/002/002/007/018
1028/1228

26.1181

AUTHOR: Kosterin, S. I., Koshmarov, Yu. A. and Gorskiya, N. M. (Moscow)

TITLE: Experimental investigation of the heat exchange of a plane plate in a supersonic rarefied gas stream

PERIODICAL: Inzhenernyy zhurnal, v. 2, no. 2, 1962, 263-269

TEXT: The paper presents the results of an experimental investigation of the heat transfer of a plane plate wetted by a supersonic rarefied gas stream under a zero angle of attack. The investigation was designed in view of the fact that the intermediate region of flow of gases, lying between the continuum region and the free-molecular region, had not been studied sufficiently, and that the various approximation methods used to determine heat exchange in this region needed a careful experimental check. The supersonic stream was created by means of a nozzle of variable shape, and its plane isentropic nucleus, of dimensions 30×30 mm, was used in the experiments. (The air was heated before entering the nozzle in the experiments on heat exchange). Silver or copper plates of different dimensions were used, their thickness being such that the ratio of the thickness to the mean free path was 0.11-0.05. The temperature at the center of the plates was measured by a thermocouple. The parameters of the gas stream were also measured. The recovery factor, the temperature of recovery, and the coefficient of heat transfer were determined. The range of variation of the parameters during the experiments

Card 1/2

35/111

S/170/62/005/004/001/016
B104/B108

10.3100
26.2160
AUTHORS: Kosterin, S. I., Koshmarov, Yu. A., Osipov, Yu. V.

TITLE: Investigation of flow and heat transfer of a rarefied gas in a flat supersonic nozzle

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 4, 1962, 3-9

TEXT: Rarefied air was used to investigate the flow and heat transfer in the ranges of $\sqrt{Re_x}/M = 5 - 50$ and $T_w/T_{\infty} = 0.7 - 0.8$ (Fig. 1). The highest possible uniformity of flow at the entrance of the nozzle was achieved by applying a grid. The flat nozzle consisted of two metal shoes (part 6, Fig. 1) which are clamped between two plates of quartzglass. The surfaces of the metal shoes are smoothly ground, the metal shoes themselves can be adjusted so as to permit the study of flows at various aperture angles of the nozzle. The breadth-to-height ratio of the rectangular channel was chosen such, that an almost plane flow existed in the central region of the channel. The conditions under which experiments were carried out provided an isentropic flow core. According to the test conditions,

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Investigation of flow and heat...

S/170/62/005/004/001/016
B104/B108

the cross section of this core ranged from 35.35 mm to 15.15 mm. During the tests, the width in the critical cross section was varied between 5 and 8 mm. A noticeable deviation of the heat transfer coefficient and of displacement thickness from values predicted by the continuum theory was discovered (Fig. 3). There are 3 figures and 17 references: 4 Soviet and 13 non-Soviet. The four most recent references to English-language publications read as follows: X. Hasimoto, JAS, 25, no. 1, 1958; V. Liu, J. of Fluid Mechanics, 5, p. 3; W. Howard, Emmons, Fundamentals of Gas Dynamics, 1958; L. Kavanau, Trans. ASME, 77, 617, 1955.

ASSOCIATION: Institut mekhaniki AN SSSR, g. Moskva (Institute of Mechanics AS USSR, Moscow)

SUBMITTED: January 20, 1962

Fig. 1. Test arrangement. Legend: (1) fore-vacuum pump; (2) high-vacuum pump; (3) cooling spirals; (4) pressure chamber; (5) electrical gas heater; (6) nozzle; (7) jet arrester; (8) air drier; (9) air

Card 2/4

S/170/62/005/005/001/015
B104/B102

10.1200
AUTHOR: Koshmarov, Yu. A.

TITLE: Hydrodynamics and heat transfer of a turbulent stream of an incompressible liquid in the gap between rotating coaxial cylinders

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 5, 1962, 5-14

TEXT: The hydrodynamics of a steady turbulent stream of an incompressible liquid in a ring-shaped channel ($r_1 < r_2$, $r_1/r_2 \approx 1$) and the heat transfer through it are studied. From Navier-Stokes equations formulas for the axial stream velocity profile are derived. On the basis of Karman's hypothesis on turbulent viscosity the radius r_m is determined for a laminar sublayer, small by comparison with the gap: $r_m = (r_1 + r_2)/2$. r_m is the radius at which the axial component of friction vanishes and at which $\partial v_z / \partial r = 0$. The tangential velocity in mid-gap is half the peripheral velocity of the rotating cylinder. ✓

Card 1/2

SUBMITTED: November 30, 1961

Card 2/2

36857

S/170/62/005/005/002/015

B104/B102

26.2120
AUTHORS: Kosterin, S. I., Koshmarov, Yu. A., Finat'yev, Yu. P.

TITLE: An experimental investigation into the hydrodynamics of a
turbulent air stream in the gap between rotating
coaxial cylinders

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 5, 1962, 15-20

TEXT: The outer cylinder (244 mm in diameter, stator) was fixed, the
diameter of the inner cylinder (rotor) was 192 mm. The length of the
ring channel was 2015 mm. Along this ring-channel pressure was measured
in distances of 100 mm. Velocity profile and velocity pulsations were
measured by means of adjustable probes. Friction was measured by means
of a BT-200 (VT-200) torsion balance. Two rotors of equal dimensions
were used in the experiments. One of these could be heated. This was
used to investigate the effect of heat transfer from the rotor to the
stator on the air stream in the ring channel. The experiments were
performed at $Re_{za} = 10^3 - 10^4$ and $Te = 0 - 5 \cdot 10^4$. Measurements were

Card 1/3

An experimental investigation ...

S/170/62/005/005/002/015
B104/B102

carried out with different rotor speeds at constant air deliveries. With a pure turbulent stream the tangential component of air velocity decreases continuously from the rotor to the stator. A vortical turbulent stream is characterized by nonmonotonic variations of the tangential component. In the range $Re_{za} = 10^3 - 10^4$ and $Te = 10^3 - 10^4$ the boundary between a pure turbulent stream and a vortical turbulent stream is at $Te_{cr} \approx 0.015 \cdot Re_{za}^{1.5}$. This formula holds only for the gap investigated here. The hydraulic losses of a pure turbulent stream in gaps of relative widths between 0 and 0.27 can be calculated from the formula $\lambda_z = \lambda_{zo} (1 + 2Z_a^2)^{0.35}$, where $Z_a = Re_{\varphi} / 2Re_{za}$. λ_z is the axial friction factor. The rotor friction is determined by $\tau_{\varphi 1} = \tau_{\varphi 2} (r_2/r_1)^2$, where $\tau_{\varphi 2}$ is the stator friction which can be measured. There are 4 figures.

Card 2/3

Card 3/3

KOSTERIN, S.I. (Moskva); KOSHMAROV, Yu.A. (Moskva); GORSKAYA, N.M. (Moskva)

Experimental investigation of heat transfer of a plane plate in
a supersonic rarefied-gas flow. Inzh.zhur. 2 no.2:263-269 '62.
(MIRA 15:6)

1. Institut mekhaniki AN SSSR.
(Aerodynamics, Supersonic) (Heat—Transmission)

KOSTERIN, S.I.; KOSHMAROV, Yu.A.; OSIPOV, Yu.V.

Study of heat transfer in the flow of a rarefied gas in a plane
supersonic nozzle. Inzh.-fiz.sborn. 5 no.4:3-9 Ap '62.
(MIRA 15:4)

1. Institut mekhaniki AN SSSR, Moskva.
(Supersonic nozzles) (Heat Transmission) (Gas flow)

KOSHEMAROV, Yu.A.

Hydrodynamics and heat transfer of turbulent flow of a
noncompressible liquid in a gap between rotating coaxial
cylinders. Inzh.-fiz.zhur. no.5:5-14 My '62. (MIRA 15:7)

1. Institut mekhaniki AN SSSR, Moskva.
(Hydrodynamics) (Heat—Transmission)
(Turbulence)

KOSTERIN, S.I.; KOSHMAROV, Yu.A.; FINAT'YEV, Yu.P.

Experimental investigation of the hydrodynamics of a turbulent
air flow in the gap between rotating coaxial cylinders. Inzh.-fiz.
zhur. no.5:15-20 My '62. (MIRA 15:7)

1. Institut mekhaniki AN SSSR, Moskva.
(Gas dynamics) (Turbulence)

KOSTERIN, S.I.; KOSHMAROV, Yu.A.; OSIPOV, Yu.V.

Note on our article published in IZh no.4, 1962. Inzh. -fiz. zhur.
5 no.10:137-138 0 '62. (MIRA 15:12)

(Nozzles)

L 15783-63

EPA(b)/EWT(1)/EDS

AFFTC/ASD

Pd-4

ACCESSION NR: AF3006342

B/0258/63/C33/003/0433/0441

AUTHOR: Koshmarov, Yu. A. (Moscow)

56

TITLE: Rarefied gas flow along a wall suddenly set in motion

SOURCE: Inzhenernyy zhurnal, v. 3, no. 3, 1963, 433-441

TOPIC TAGS: rarefied gas, impulsive motion, molecular theory of gas, two stream distribution function, skin friction, friction stress, velocity distribution, velocity moment, macroscopic velocity, Navier Stokes equation, collision period, no slip condition

ABSTRACT: An investigation of the dynamics of a gas bounded by an infinite plane is carried out on the basis of molecular theory and under the assumption that the velocity of the plane is smaller than the velocity of sound in the gas. An equivalent system of equations of moments is used instead of the Maxwell-Boltzmann equation for the function of molecular velocity distribution. The analysis is based on the introduction of the "two-stream" distribution function, that is, the method using the semispace-velocity moments presented by E. P. Gross and

Card 1/2

L 15783-63

ACCESSION NR: AP3006342

E. A. Jackson (Physics of Fluids, v. 1, no. 4, 1958). The solution is reduced to analytical formulas which make it possible to determine the skin friction and macroscopic gas velocity in any point of space near the moving plane and at any value of time. It is shown that for a period of time which is small compared to the collision period of the gas molecules, the velocity of the gas and the friction stress on the plane differ from values obtained by the Navier-Stokes equation with boundary conditions of total "adhesion" (no slip). The analysis of the results obtained by this method made possible the evaluation of the flow properties of the rarefied gases. Orig. art. has: 2 figures and 25 formulas.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 27Oct63

ENCL: 00

SUB CODE: AI

NO REF SOV: 001

OTHER: 007

Card 2/2

ACCESSION NR: AP4041070

S/0170/64/000/006/0048/0054

AUTHOR: Koshmarov, Yu. A.

TITLE: Rarefaction effects on gas dynamic skin friction in the presence of suction or blowing from wall in cross flow

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 6, 1964, 48-54

TOPIC TAGS: rarefied Couette flow, porous wall, moment method, Boltzmann integro-differential equation, Maxwell molecule, collision integral, tangential stress, suction velocity, continuum limit, Navier Stokes equation, skin friction, rarefaction parameter

ABSTRACT: The problem of rarefied Couette flow with porous walls was studied analytically. It was assumed that the upper plate velocity and the suction (or blowing) velocity are much less than the speed of sound and that both plates are at the same temperature. The analysis was carried out using the moment method to integrate Boltzmann's integrodifferential equation and the Maxwell molecule (fifth power law) model in the collision integral. Employing the moments $Q = m \xi_x$ and $Q = m \xi_x \xi_y$, the following equations were obtained

$1/3$

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ACCESSION NR: AP4041070

$$\bar{u}_2 - \bar{u}_1 = a,$$

$$\frac{d}{dy} \left(\frac{\bar{u}_2 + \bar{u}_1}{2} \right) + \frac{Re}{M_1} \left[\frac{a}{\sqrt{2\pi\gamma}} - M_1 \gamma \left(\frac{\bar{u}_2 + \bar{u}_1}{2} \right) \right] = 0,$$

the solutions of which give for the velocity and the tangential stress P_{xy}

$$\bar{u} = \frac{\left[\exp \left(\frac{Re}{M_1} M_2 y \right) - 1 \right] \left[\left(\frac{2}{\pi\gamma} \right)^{\frac{1}{2}} \frac{1}{M_2} + 1 \right] + 1}{\left[\exp \left(\frac{Re}{M_1} M_2 \right) - 1 \right] \left[\left(\frac{2}{\pi\gamma} \right)^{\frac{1}{2}} \frac{1}{M_2} + 1 \right] + 2},$$

$$\bar{P}_{xy} = \frac{2 \left[1 + \left(\frac{\pi\gamma}{2} \right)^{\frac{1}{2}} M_2 \right] \exp \left(\frac{Re}{M_1} M_2 y \right)}{\left[\exp \left(\frac{Re}{M_1} M_2 \right) - 1 \right] \left[\left(\frac{2}{\pi\gamma} \right)^{\frac{1}{2}} \frac{1}{M_2} + 1 \right] + 2},$$

where M_2 is the Mach number relative to the suction (blowing) velocity. Taking the limit $M_2 \rightarrow 0$ and the continuum limit $Re/M_1 \rightarrow \infty$ transforms the above equations to the well known Couette flow analysis obtained from Navier-Stokes equations. The

2/3

Card

KOSTERIN, S. I.; KOSHMAROV, Yu. A.

"Convective heat transfer in the supersonic flow of a rarefied gas."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12
May 64.

Inst of Mechanics, AS USSR.

L 43209-65 ENP(m)/EPF(c)/EPF(n)-2/EPR/ENT(1)/ENT(m)/FCS(k)/ENG(m)/ENA(1)/ENA(d)/
ENP(w) Pd-1/Pr-1/Ps-1/Pu-1 EN/NN

ACCESSION NR: AP5011320

UR/0258/65/005/002/0261/0274

AUTHOR: Koshmarov, Yu. A. (Moscow); Gorskaya, N. M. (Moscow)

TITLE: Heat transfer to flat plate in supersonic rarefied air flow

SOURCE: Inzhenernyy zhurnal, v. 5, no. 2, 1965, 261-274

TOPIC TAGS: hypersonic flow, supersonic flow, heat transfer, free molecule flow, continuum flow, rarefied air flow, accommodation coefficient, recovery factor, strong interaction, wind tunnel, hypersonic interaction parameter

ABSTRACT: An investigation was carried out in a vacuum wind tunnel to determine the heat transfer and equilibrium temperature of a cooled flat plate in supersonic air flow at zero angle of attack and in the range of free stream Mach numbers from 2.6 to 9.8. The heat transfer measurements were made at temperature factors $T_{10}/T_{00} = 0.6 - 0.8$. Various flow regimes from nearly free-molecule to continual were investigated. A detailed description of models and measuring techniques for local and mean heat transfer coefficients and for equilibrium temperatures are given. On the basis of experimental

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L 43209-65

ACCESSION NR: AP5011320

data and observations by Nagamatsu and Vidal, and on theoretical analysis based on the kinetic-free molecule approach by A. F. Charwat, semiempirical approximate formulas were established for calculating local Stanton numbers, mean equilibrium temperatures, and heat transfer coefficients. Special experiments were carried out on a particular model in order to evaluate the magnitude of heat fluxes entering through a leading edge. The effect of the forward leading edge on the equilibrium temperature was found to be insignificant. Correlation of the experimental results with the theory of free-molecule flow developed by A. Oppenheim made it possible to evaluate the accommodation coefficient. The results of measurement in the region of strong interaction presented in graphs are compared with theoretical data based on the theory of strong interaction. The comparison shows that the experimental data are consistent with the conclusions of the approximate theoretical analysis. Orig. art. has: 7 figures and 18 formulas. [AB]

ASSOCIATION: none

SUBMITTED: 11 May 64

NO REF SOV: 008

Card 2/2 MB

ENCL: 00
OTHER: 004

SUB CODE: ME 45
ATD PRESS: 3242

14981-66 EWT(1)/EWP(m)/ETC(F)/EPF(n)-2/ENG(m)/EWA(d)/FCS(k)/EWA(1) WW

ACC NR: AP6002371

SOURCE CODE: UR/0207/65/000/006/0135/0138

AUTHOR: Koshmarov, Yu. A. (Moscow)

ORG: None

TITLE: Heat transfer to a wedge in a hypersonic flow of a highly rarefied gas

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 6, 1965, 135-138

TOPIC TAGS: rarefied gas, plasma, hypersonic flow, wedge body, heat transfer

ABSTRACT: The author presents results of an approximate analysis of the steady-state problem on the heat-exchange of a sharp, fine ($\sin \theta \approx \theta < 1$), highly cooled ($t_w \ll 1$) wedge in a hypersonic ($M \gg 1$) flow of gas at zero angle-of-attack in an almost free-molecular process. The article establishes the dimensionless parameters which determine heat exchange, and presents approximate formulas for evaluational calculations. This analysis is not a strictly quantitative theory and its results should be considered as being evaluational in nature. The conclusions of the analysis may be useful for the organization of experiments and the generalization of experimental data. The method used is analogous to that used by A. F. Charwat (Molecular Flow Study of the Hypersonic Sharp Leading Edge Interaction. Rarefied Gas Dynamics. Proceeding of the Second International Symposium on Rarefied Gas Dynamics (ed. by L. Talbot), New York-London, 1961, p. 553-573) in the analysis of flow around sharp leading edges. Orig. art. has: 1 figure and 18 formulas.

SUB CODE: 20 / SUBM DATE: 10Jun65 / ORIG REF: 004 / OTH REF: 002

Card 1/1

L 16071-66 EWT(1)/EWP(w)/ETC(f)/EPF(n)-2/ENG(m)/EWA(d)/FCS(k)/EWA(1)
 ACC NR: AT6006909 WW/EM/GS SOURCE CODE: UR/0000/65/000/000/0157/0169

AUTHOR: Koshmarov, Yu. A.

ORG: Institute of Mechanics AN SSSR, Moscow (Institut mekhaniki AN SSSR)

TITLE: A semiempirical theory of heat transfer to a flat plate in rarefied gas flows at high Mach numbers

SOURCE: Teplo-i massoperenos. t. II.: Teplo-i massoperenos pri vzaimodeystvii tel s potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass transfer in the interaction of bodies with liquid and gas flows). Minsk, Nauka i tekhnika, 1965, 157-169

TOPIC TAGS: aerodynamics, heat transfer, hypersonic flow, rarefied gas, boundary layer, shock wave, molecular interaction, heat transfer coefficient

ABSTRACT: The problem of heat transfer to an infinite cooled flat plate in hypersonic rarefied gas flows at zero angle of attack is considered. A theoretical analysis of a flow model and heat transfer is developed on the basis of the results of a series of experimental investigations, assuming that the plate thickness is very small as compared with the mean free path of molecules in a free flow, the values of the interaction parameter are rather high, and the Card 1/2

L 16071-66

ACC NR: AT6006909

surface temperature is constant everywhere. The boundaries between single collisions and transition zones are approximately established and the effect of rarefaction on their relative importance is considered. The investigations of heat transfer in the transition zone by the method used by L. L. Kavanau and in the zone of single collisions by A. F. Charwatt are analyzed and an approximate formula for the average Stanton number is derived. Formulas are derived for local temperature recovery coefficients in single collisions and transition zones. A comparison of the approximate results with the experimental data gives some insight into the relative accuracy of these formulas. It is concluded that the single general statements of the theoretical analysis may be useful for formulating further experiments and understanding of experimental data. Orig. art. has: 3 figures and 20 formulas. [AB]

SUB CODE: 20/ SUBM DATE: 09Nov65/ ORIG REF: 006/ OTH REF: 006/ ATD PRESS: 4/213

Card 2/2

L 16160-66 EWT(1)/EWP(m)/EWP(w)/ETC(F)/EPF(n)-2/ENG(m)/EWA(d)/FCS(k)/EWA(1)
 ACC NR: AT6006910 WW/EM/GS SOURCE CODE: UR/0000/65/000/000/0170/0188

AUTHOR: Koshmarov, Yu. A.; Gorskaya, N. M.

ORG: Institute of Mechanics, AN SSSR, Moscow (Institut mekhaniki AN SSSR)

TITLE: ^{21, 44, 5} Heat transfer to a flat plate in ^{1, 55} supersonic rarefied air flows

SOURCE: Teplo- i massoperenos. t. II: Teplo- i massoperenos pri vzaimodeystvii
 tel s potokami zhidkostey i gazov (Heat and mass transfer. v. 2: Heat and mass
 transfer in the interaction of bodies with liquid and gas flows). Minsk, Nauka i
 tekhnika, 1965, 170-188

TOPIC TAGS: aerodynamics, thermodynamics, heat transfer, supersonic flow, hyper-
 sonic flow, rarefied gas, heat transfer coefficient, molecular interaction

ABSTRACT: An investigation was conducted in a vacuum aerodynamic tunnel described
 previously (Yu. A. Koshmarov, Same source, p. 157; S. I. Kosterin, Yu. A. Koshmarov,
 N. M. Gorskaya, Inzhenernyy zhurnal, v. 2, no. 2, 1962.) to determine heat transfer
 and equilibrium temperatures of a flat plate in supersonic rarefied air flows at
 zero angle of attack. The supersonic flow of Mach 4 to 9 was produced by one ex-
 pansible and three conical nozzles. Twelve model plates were used for investigat-

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L 16160-66

ACC NR: AT6006910

ing the average heat transfer coefficient and average equilibrium temperatures, which were determined by the method used by Kosterin, Koshmarov, and Gorskaya in the study cited above. Comparison of measured heat fluxes with the relations obtained by A. Oppenheim (Mekhanika, no. 5, 1953) for free molecular flow made it possible to evaluate the values of the accommodation coefficient. Measurements of local heat transfer coefficients were made in the Mach range from 3.8 to 8.1, with temperature ratios $T_w/T_0 = 0.62$ to 0.83 , and with the interaction parameter χ ranging from 4 to 26.2 . The minimum and maximum values of the rarefaction parameter $\sqrt{Re_x}/M_\infty$ were 2.5 and 4, respectively, while the Knudsen number varied from 4.2 to 1.2. Average equilibrium temperatures were measured in the Mach range from 2.5 to 8.9, with the rarefaction parameter varying from 1.3 to 8, and maximum and minimum values of the interaction parameter of about 40 and 1.5, respectively. The average value of the Knudsen number was about 0.7—0.8. Average heat transfer coefficients were investigated in the Mach range from 2.6 to 9, with temperature ratios $T_w/T_0 = 0.56$ — 0.83 , rarefaction parameters ≈ 0.7 to 5, and interaction parameters from 3 to 49. Discrepancies between experimental and theoretical data were observed. Their magnitude increased with decreasing values of the rarefaction parameter and their sign depends on the Mach number, that is, the experimental results were smaller at low M and higher at high values M than the theoretical data. A detailed analysis of the results presented in graphs and tabular form

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L 16160-66

ACC NR: AT6006910

shows that, in general, the experimental results agree well with the conclusions of Koshmarov's approximate theoretical analysis (Same source, p. 157). Orig. art. has: 7 figures, 11 formulae, and 1 table. [AB]

SUB CODE: 20/ SUBM DATE: 09Nov65/ ORIG REF: 009/ OTH REF: 004/ ATD PRESS:

4204


Card 3/3

L 43830-66 ENT(1)/EWP(m) WW

ACC NR: AP6030120

SOURCE CODE: UR/0421/66/000/004/0175/0177

AUTHOR: Koshmarov, Yu. A. (Moscow); Gorskaya, N. M. (Moscow)

69
B

ORG: none

TITLE: Heat transfer and equilibrium temperature of a sphere in a supersonic rarefied gas flow

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 4, 1966, 175-177

TOPIC TAGS: supersonic aerodynamics, supersonic flow, hypersonic flow, aerodynamic heat transfer, heat transfer coefficient, rarefied gas, *HEAT TRANSFER IN RAREFIED GAS*

ABSTRACT: Results of experimental investigations of the heat transfer and equilibrium temperature of a sphere in supersonic rarefied air flows are presented and the experimental setup and measuring techniques are described. The experiments were carried out with four spheres of electrolytic copper from 2.9 to 19.75 mm in diameter in a low-density wind tunnel. The experiments associated with investigation of the equilibrium temperature were separated into three groups according to Mach number: 1 - $M = 2.25$ to 2.6 ; 2 - 5.5 to 6.25 ; 3 - 7.5 to 8 with the results presented in Fig. 1(a) as the dependence of the recovery coefficient r on \sqrt{R}/M . The investigations of heat transfer were carried out in the Mach range from 6.2 to 6.35 and the results are presented in Fig. 1(b) as the dependence of the Nusselt number N_e on the Reynolds

Card 1/2

L 43830-66

ACC NR: AP6030120

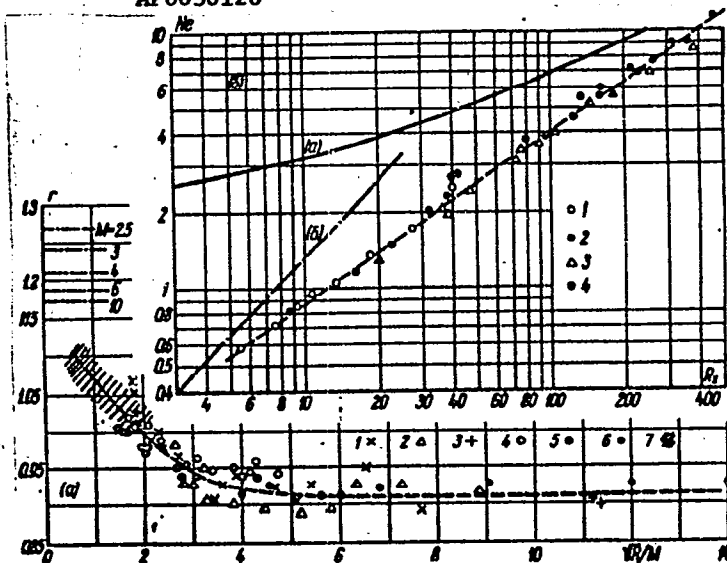


Fig. 1(a) - Recovery coefficient versus R/M .

Fig. 1(b) - N_e versus R_g .

number R_g calculated with the sphere diameter and flow parameters behind a normal shock wave. A comparison of these results with data obtained by Drake, Becker, Eberley and Touryan shows good agreement. Orig. art. has: 2 figures and 1 formula. [AB]

SUB CODE: 20/ SUBM DATE: 18Jul65/ ORIG REF: 005/ OTH REF: 004/ ATD PRESS:
Card 2/2fy 5073

PERVEYEV, F.Ya.; GOLOBOVA, K.O.; KOSHMINA, N.V.

Interaction of *oxides* of the acetylene series with
potassium cyanide. Part 2, Vest. LGU 20 no. 22: 143-149
'65. (MLR: 18:12)

KOSHVAROVSKIY, N. I.

Principles of accounting, calculation and work analysis in industrial enterprises Izd. 2.,
ispr. i dop. Moskva, Goslesbumizdat, 1950. 143 p.

USSR/Medicine - Novocain Block

Dec 51

"Novocain Block as an Effective Method of Conservative Treatment for Gastric and Duodenal Ulcers," Docent I. N. Koshnitskiy, M. G. Khaskelevich, Clinic of the Therapeutic Hosp and Surg Hosp, Odessa Med Inst

"Klin Med" Vol XXIX, No 12, p 84

Lumbar novocain block was given to 88 patients of whom 46 suffered from duodenal and 20 from gastric ulcers, 14 from perigastritis and periduodenitis, and 8 from dispeptic symptoms after resection of the stomach. The block was given

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USSR/Medicine - Novocain Block
(Contd)

Dec 51

bilaterally and each patient received 2-4 blocks. Fifty cases were considerably improved, 20 showed improvement, and in 18 there was no change. Authors deducted that effectiveness of lumbar novocain block depends to a considerable degree upon how carefully and accurately the work is done.

203777

KOSHNI~~TSKI~~Y, I. N.

KOSHNITSKIY, I.N., dotsent; KRICHKOVSKIY, G.F.; VERBITSKAYA, L.P., dotsent; LYSENKO, N.I.; BIRBRAYER, M.L.; ALENGOZ, N.G.; LOKHMATOV, D.P.; YAROSHCHUK, A.A.

State of health of workers in the graphite industry. Vrach. delo no.8:134 Ag'63. (MIRA 16:9)

1. Odesskiy meditsinskiy institut.
(NO SUBJECT HEADINGS)

andesite-basaltic rocks, locally reaching a thickness of 200 m. The author has used model studies to investigate the behavior of this capping rock during block caving, to determine the room dimensions, the caving step, and the type of timbering best suited for operation at the deposit. He has concluded that the deposit may be operated by using long working faces and by complete caving of the roof rock. The caving step for the basal capping is established to be one-half the limiting span of roof rock (without consideration of roof timbering). When the thickness of layers being caved is 10—50 m,

Card 1/2

UDC: 622.831

ACC NR: AT7004462

the length of this caving step is 95—214 m. The size of caving blocks is 31—66 m. Timbering at the working face does not change the nature of the caving process when the capping rock is igneous. Because of hinge fracturing in the basaltic capping, no dynamic loading should occur on the timbering at the working face (as it does when caving sandstones at some mines in the Donets Basin), but this needs further study in actual mines. Metal posts with large bearing capacity (35—40 tons/m²) are best for the rooms. Special support may be obtained from organ pillars or isolated caving pillars. The changes in time of caving may be plotted by observing the increasing rate of deformation in capping basalts; protective measures may then be taken by increasing timbering at the working face. The present investigations have led to an explanation of the nature of caving of igneous rocks above worked-out coal seams and to the determination of expectable rock pressure at the working face. Orig. art. has: 5 figures, 2 tables, and 20 formulas.

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 009

27 18

Effect of magnesium on the contraction of cast iron. L. S. Solov'ev, R. P. Solov'ev, and G. I. Kosovnik. Acad. rep. popular. Komint. Studii cerceşilor 3, 305 (1958).
 The effect of Mg on the linear contraction and the vol. of the pipe of ordinary gray cast iron was examd., and the same expts. were done with alloys Ni-C, Ni-C-Si, Fe-C, Fe-C-Si, and C-C. The pipe volume is detd. by the graphite which seps. during the eutectic transformation (eutectic graphite); the original expansion is caused by graphite which seps. at subeutectic temps. (noneutectic graphite). If cast iron is treated with Mg, the vol. of the pipes and the starting expansion both increase, as the eutectic graphite is decreased, and the noneutectic graphite is increased during the solidification and cooling of the cast iron. The degree of supercooling during the eutectic transformation goes up, because the cementite decomp. at subeutectic temps. Werner Jacobson

Distr: 4E20

I.
KOSHOVNIK, G.; TODGROV, R.

Concerning the fluidity of the gray and the high-strength cast iron. p. 11.
Teknika Vol. 7, No. 4, Apr. 1958. Sofia, Bulgaria.

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 10,
Oct. 58

VASHCHENKO, K.I., doktor tekhn.nauk; TODOROV, R.P., inzh.; KOSHOVNIK,
G.I., inzh.

Mechanism of graphite formation in cast iron containing magnesium.
Lit.proizv. no.3:34-38 Mr '59. (MIRA 12:4)
(Cast iron--Metallography)

18(5)

SOV/128-59-4-11/27

AUTHORS: Vashchenko, K.I., Doctor of Technical Sciences,
Todorov, R.P., Candidate of Technical Sciences, and
Koshovnik, G.I., Engineer

TITLE: Distribution of Silicon Between Phases During the
Annealing of Magnesium Iron

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 4, pp 20-23 (USSR)

ABSTRACT: It is known that the distribution of silicon between
phases is uneven in malleable cast iron. Analyzing
the phases, it was found, that the chief portion of
the silicon is dissolved in the ferrite and austenite
(under high temperatures). In the cementite only a
hundredth part of one percent of silicon was found.
The uneven distribution of silicon highly complicates
the mechanism of the annealing process of the malle-
able cast iron, and renders more difficult the homo-
genizing of the metallic die, for which the diffusion
of the silicon is most important. The diffusion of
silicon in austenite is a relatively slow process,
and it can be assumed, that the homogenizing process,

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SOV/128-59-4-11/27

Distribution of Silicon Between Phases During the Annealing of
Magnesium Iron

while it is dependent on the disintegration speed of the austenite, coincides with the annealing or even lags behind it. The coincidence of both processes is possible only with a sufficiently low percentage of silicon or if the annealing is not too extensive. If the percentage of Si in normal magnesium iron is raised, the annealing proceeds quickly and the homogenizing remains. The following part of the article mainly studies the micro-hardness of austenite and perlite. The uneven distribution of the silicon especially influences the mechanism of the second phase in the annealing process. As a result, the annealing of the cementite in the perlite becomes irregular, too. If the distribution of silicon in the austenite (or perlite) is even, the perlite bordering the graphite is disintegrated first. The ferrite linings, which are formed, enlarge continuously, until all the perlite is dissolved. The uneven distribution of the silicon between the phases, and the homogenizing

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SOV/128-59-4-11/27

Distribution of Silicon Between Phases During the Annealing of
Magnesium Iron

taking place during the annealing are of great practical importance. The plasticity of the ferrite is highly dependent on the duration of the first annealing phase. The more completely the austenite is homogenized, the higher will be the plasticity of the ferrite. The second phase was in all cases completed within 5 hrs and under 740°C. To attain a good plasticity the annealing must be guarantee the homogenization of the metal die. There are 2 tables, 4 graphs, 2 diagrams, 8 photographs and 2 references, 1 of which is English and 1 Soviet.

Card 3/3

KOSHNORIK, G.; BELITSKII, A.; TODOROV, R.

"Concerning the behavior of silicon in tempering white cast iron."

TEZHKA PROMISHLENOST, Sofia, Bulgaria, Vol. 8, no. 3, Mar. 1959

Monthly list of East Europe Accessions (EEAI), LC, Vol 8, No. 6, Sept 59
Unclass

KOSHOVNIK, G. I. Cand Tech Sci — (diss) "Homogenized Tempering of Magnesium Pig Irons," Tbilisi, 1960, 12 pp, 150 copies (Georgian Polytechnical Institute im V. I. Lenin) (KL, 47/60, 103)

S/128/60/000/005/002/004
A104/A133

AUTHORS: Vashchenko, K. I.; Todorov, R. P., and Koshovnik, G. I.
TITLE: Annealing conditions of magnesium cast iron and their effect on mechanical properties
PERIODICAL: Liteynoye proizvodstvo, no. 5, 1960, 28-29

TEXT: The authors state that during annealing of malleable iron a diffusion of silicon accompanies the decomposition of cementite which affects the mechanical properties of castings. In white iron silicon is not uniformly distributed; the largest portion dissolves in ferrite whereas only small quantities can be found in cementite. Decomposition of cementite results in the formation of austenite sections in which the silicon content is considerably lower than in the rest of the austenite and which show similar characteristics as cementite. The diffusion of silicon from the higher concentration sectors to those of lower silicon content can be achieved by prolonged annealing. Tests to establish the annealing conditions and their effect on the mechanical properties of magnesium iron were carried out in a 35 kg capacity high-frequency furnace with acid lining. The iron was modified with

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S/128/60/000/005/002/004
A104/A133

Annealing conditions of...

pure magnesium. Tensile strength and elongation were tested by the Gagarin method. The chemical composition of investigated irons is given in Table 1. Annealing was carried out in two stages, during the first stage the time of annealing varied whereas temperature was kept at 1,050°C and during the second stage at 840°C for 8 hours. The specimens tested after annealing had a ferritic structure containing spheroidal graphite. The obtained results are shown in Figure 1, a - d. Prolonged annealing definitely improved the elongation and impact values and reduced the strength and hardness of castings. The temperature of the first high-temperature stage should be chosen very carefully. The redistribution of silicon during annealing and its effect on the plastic properties was also observed on wrought iron. To ensure favorable plastic properties of castings the homogenization of metal must take place during the first annealing phase in addition to a complete graphitization. The second phase should be determined by the time required for the decomposition of pearlite. A further prolongation of the annealing time does not improve the mechanical properties. There are 4 figures, 2 tables, 5 Soviet-bloc and 1 non-Soviet-bloc references.

Card 2/4

S/148/60/000/010/015/018
A161/A030

AUTHORS: Permyakov, V.G.; Todorov, R.P.; Koshovnik, G.I.; Belotskiy, A.V.

TITLE: The Effect of Homogenizing on the Redistribution of Silicon and the Mechanical Properties of Magnesium Cast Iron With Grey Fracture

PERIODICAL: Izvestiya vysshih uchebnykh zavedeniy. Chernaya metallurgiya, 1960, No. 10, pp. 143 - 147

TEXT: Cast iron with 3.51% C; 3.36% Si; 0.39% Mn; 0.10% P; 0.008% S; and 0.053% Mg has been studied before and after homogenizing in 1,050°C. Uneven Si distribution was revealed in the state before homogenizing, with the highest concentration at graphite inclusions (Fig. 1), along with reduced C content in these spots and the lowest quantity of residual austenite at the graphite globules, due to the mutual displacing effect of C and Si. Holding in 1,050°C homogenized the structure. The effect was studied with an x-ray camera in cobalt anode radiation using the inverse method. The α -phase line (310) was focused at 60 mm distance between the specimen and the film, and armco iron with a total impurities content maximum 0.05% was used as the reference piece; the x-ray camera was a "1 KPOC" (1 KROS). The variation of photometric curves (Fig. 3) indicated high

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S/148/60/000/010/015/018
A161/A030

The Effect of Homogenizing on the Redistribution of Silicon and the Mechanical Properties of Magnesium Cast Iron With Grey Fracture

heterogeneity of α -phase before homogenizing. The microhardness of ferrite was measured with a ПМТ-3 (PMT-3) apparatus. The results (Fig. 4) show that the difference in the hardness values gradually disappeared. Ferrite was practically fully homogenized after 17 hours holding at 1,050°. Dilatometric determinations (Fig. 5) proved that the second phase of graphitization reduced rapidly at the beginning and smoothly evened out as time went on. The decomposition of eutectic carbides stabilized after 6 - 7 h. The change in mechanical properties was studied on iron specimens of a slightly different composition. The results are illustrated by curves (Fig. 6) and show a slight drop of strength and hardness but an improved plasticity. It is apparent that brittleness before homogenizing is caused by Si concentration in spots, and that the improved plastic properties of iron are due to redistribution of Si. It is obvious that homogenizing must precede the second graphitization stage in cases when a high plasticity of castings is wanted. There are 6 figures.

ASSOCIATION: Kiyevskiy politekhnicheskii institut (Kiyev Polytechnical Institute)
SUBMITTED: January 7, 1960

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S/148/60/000/010/015/018
A161/A030

The Effect of Homogenizing on the Redistribution of Silicon and the Mechanical Properties of Magnesium Cast Iron With Grey Fracture

Figure 1: Iron with 3.65% C; 3.22% Si; 0.42% Mn; 0.031% P; 0.009% S; and 0.045% Mg. Etched with 2-% nitric acid solution in spirit:



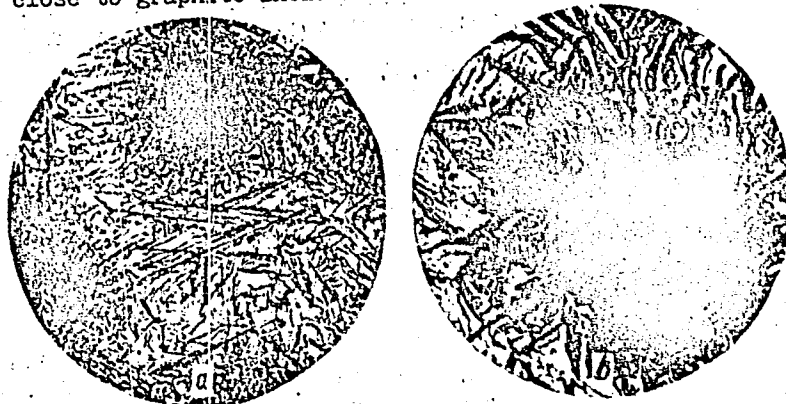
a - close at graphite inclusions. X 1,350.
b - far from graphite inclusions. X 800.

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S/148/60/000/010/015/018
A161/A030

The Effect of Homogenizing on the Redistribution of Silicon and the Mechanical Properties of Magnesium Cast Iron With Grey Fracture

Figure 2: Iron quenched from 1,100°C (etched with the same solution). a - far from, and b - close to graphite inclusions.

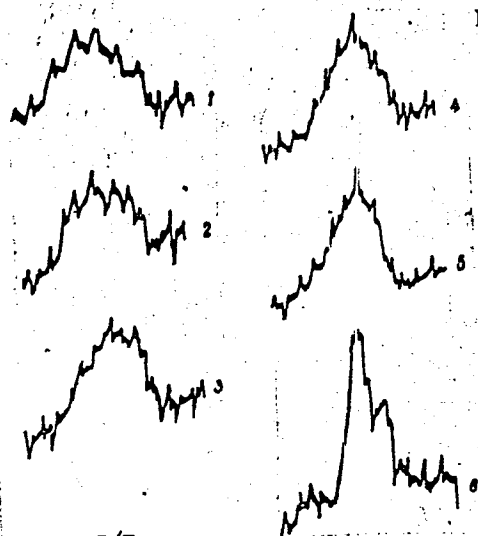


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S/148/60/000/010/015/018
A161/A030

The Effect of Homogenizing on the Redistribution of Silicon and the Mechanical Properties of Magnesium Cast Iron With Grey Fracture

Figure 3: Photometric curves of ferrite.



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S/148/60/000/010/015/018
A161/A030

The Effect of Homogenizing on the Redistribution of Silicon and the Mechanical Properties of Magnesium Cast Iron With Grey Fracture

Figure 4: Change of the microhardness of ferrite dependent on soaking in 1,050°C.

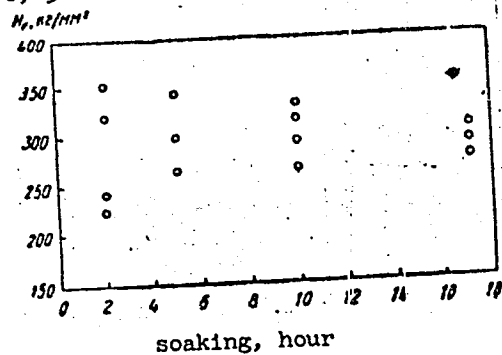
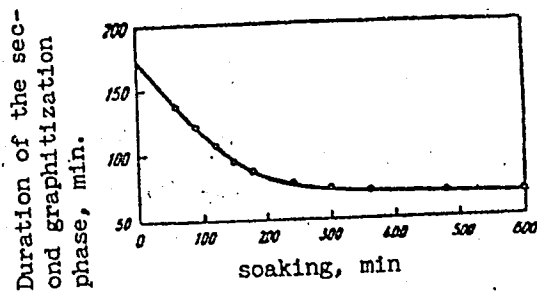


Figure 5: Dependence of the second graphitization phase on time in 1,050°C (0 to 600 min).



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S/148/60/000/010/015/018
A161/A030

The Effect of Homogenizing on the Redistribution of Silicon and the Mechanical Properties of Magnesium Cast Iron With Grey Fracture

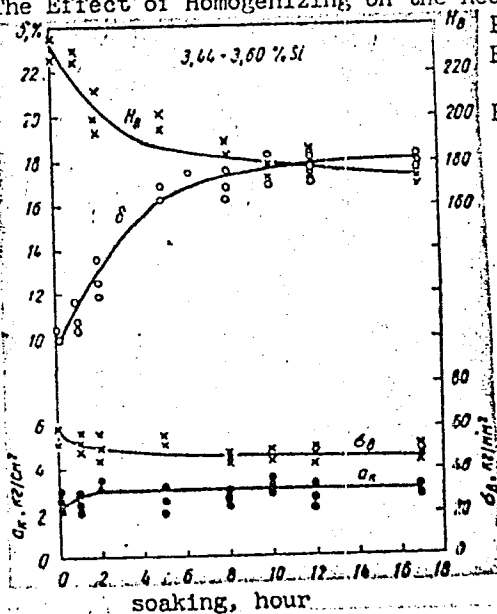


Figure 6

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S/128/61/000/002/005/009
A054/A133

AUTHORS: Vashchenko, K.I.; Todorov, R.P.; Koshovnik, G.I.

TITLE: Phase distribution of nickel in white iron

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1961, 25 - 26

TEXT: The distribution of nickel between cementite and ferrite was analyzed chemically. A 1HKCl + 0.5%-citric acid solution electrolyte (at room temperature and 0.02 A/cm² current density) were used. The electrolysis should not exceed a maximum of 3 h, in order to prevent the decomposition of the cementite. The composition of the analyzed iron was: 2.3% C; 0.3% Si; 0.41% Mn; 0.045% P; 0.05% S; and 1.9% Ni. The test data show that at high temperatures the greater part of nickel is dissolved in ferrite or austenite, whereas cementite contains only some hundreds of the nickel percentage. With the increase of the eutectic character of iron, the nickel content of cementite increases. This is due to the close bond of pearlite and cementite in ledeburite which impedes the total electrolytic separation of these phases. In ledeburite some isolated ferrite particles remain which increase the initial nickel content of cementite. Corresponding results were obtained with metallographic tests, based on the property of

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S/128/61/000/002/005/009
A054/A133

Phase distribution of nickel in white iron

nickel to reduce the critical hardening rate of iron. In the tests iron containing 2.5% C, 0.35% Si, 0.5% Mn, 0.04% P, 0.055% S and 2% Ni was used in the form of wedge-shaped specimens (100 x 60 x 20 mm), the cross sections of which were cooled at various rates. The critical hardening rate of primary austenite is much higher than that of austenite entering the ledeburite structure. The quantitative aspect of nickel distribution between primary and eutectic austenite - tested by thermal analysis - proved that nickel lowers the temperature of eutectic transformation (1% Ni corresponds to a temperature drop of eutectic transformation of 30°C). It was also found that the crystals of primary austenite show a nonuniform micro-hardness which proves that micro-hardness and, consequently, nickel concentrations in the proximity of cementite is higher than in the other parts of austenite. From the tests it can be roughly assumed that the nickel content of primary austenite is equal to the nickel content of the liquid smelt, whereas in the eutectic austenite it is about twice as high. There are 3 figures, 2 tables and 3 Soviet-bloc references.

Card 2/2

TODOROV, R.P., kand.tekhn.nauk; KOSHOVNIK, G.I., inzh.

Decomposition of free cementite. Metalloved. i term. obr. met.
no.5:29-30 My '61. (MIRA 14:5)

1. Kiyevskiy politekhnicheskii institut.
(Cementite)

TODOROV, R.P., kand.tekhn.nauk; KOSHOVNIK, G.I., kand.tekhn.nauk

Homogenizing annealing of magnesium cast iron. Metalloved. i term.
obr. met. no.8:10-11 Ag '62. (MIRA 15:11)

1. Kiyevskiy politekhnicheskii institut.
(Cast iron--Metallography) (Annealing of metals)

KOSHOVYANU-VOYNESKU

RUMANIA/Viology. Human and Animal Viruses.

E-3

Abs Jour: Ref. Zhur-Biol., No 7, 1957, 28745.

Author : Kreyndler, Tsaga, Oltyanu, Koshovyanu-Voynesku,
Vegener.

Inst : Not given.

Title : Protective Effect of Intrabrain Injection of Tellu-
rium in Rabies Encephalitis in Rabbits.

Orig Pub: Zashchitnoi deystvie vnutrimozgovoy inektsii tellura
pri rabicheskom entsefalite u krolikov.
Bul. stiint. Acad. RPR Sec. med., 1956, 8, No 4,
973-985.

Abstract: No abstract.

Card : 1/1

APPROVED FOR RELEASE: 06/14/2000, CIA-RDP86-00513R000825110019-4"

[Koshovyi, V.I.], red.; LIMANOVA, M.I. [Lymanova, M.I.],
tekhn. red.

[Communist labor is the commandment of our team] Zapovid'
nashoi lanky - kommunistychna pratsia. Kharkiv, Kharkivs'ke
kryzhkove vyd-vo, 1963. 25 p. (MIRA 17:1)

1. Kolkhoz "Pershe travnya" Burinskogo rayona, Sumskey oblasti
(for Kachur).

KOSHOVYY, V.I. [Koshovyi, V.I.], red.; LYMANOVA, M.I. [Lymanova,
M.I.], tekhn. red.

[Our efficiency proposals] Nashi ratsionalizators'ki pro-
pozytsii; zbirnyk statei. Kharkiv, Kharkivs'ke kryzhkove
vyd-vo, 1963. 42 p. (MIRA 17:1)

DEMYDKO, Petr Makarovich, nauchn. sotr.; KOSHOVYY, V.I. [Koshovyi, V.I.],
red.

[What the advantages of soybean are] Chym vyhidna soia.
Kharkiv, Vyd-vo "Prapor," 1964. 30 p. (MIRA 18:1)

1. Sumskaya, sel'skokhozyaystvennaya issledovatel'skaya
stantsiya, Sumskaya oblast' (for Demydko).

TASKAYEV, N.D.; KOSHOYEV, K.; KOZHINA, M.I.

Preparation of calcium carbide from brown coals of northern
Uzbekistan. Izv. AN Kir. SSR. Ser. est. i tekhn. nauk 2
no.5:33-38 '60. (MIRA 13:9)
(Uzbekistan--Calcium carbide)

KOSHOYEV, K.K.; ANANCHENKO, S.N.; PLATONOVA, A.V.; TORGOV, I.V.

Preparation of dl-estrone and 19-norsteroids based on
3-methoxy- $\Delta^1,3,5(10)$, 9(11)-8,14-secoestra-14,17-endione.
Izv. AN SSSR. Ser. khim. no.11:2058-2059 N '63. (MIRA 17:1)

1. Institut khimii prirodnikh soyedineniy AN SSSR.

KOSHSZA, Ishtvan

Development of the means of communication in the Hungarian People's Republic. Vest. svyazi 21 no.12:31-32 D '61. (MIRA 14:12)

1. Ministr putey soobshcheniya i svyazi Vengerskoy Narodnoy Respubliki.

(Hungary--Telecommunication)

SATSUKEVICH, Mikhail Fedorovich; SHEYNA, Gennadiy Petrovich;
KOSHTANOV, F., red.; VARENIKOVA, V., tekhn. red.

[Electric equipment of machine tools] Elektrooborudovanie metallovezhushchikh stankov. Minsk, Izd-vo "Belarus" 1963. 164 p. (Biblioteka elektromontera, no.8) (MIRA 17:3)

POSHTOYANTS, K. Kh.--SOME Clinical Characteristics of the Course of Influenza
during the Epidemic Period 1959. KULIZHNIKOV, G.A.; GURTOVA, I, M.;
and KOVALEVA, Z.N.
Voyenno-Meditsinskiy Zhurnal, No.11, 1961, pp. 70-79.

KULIZHNIKOV, G.A., polkovnik meditsinskoy sluzhby; GURTOVOY, I.M., mayor
meditsinskoy sluzhby; KOSHTOYANTS, K.Kh.; KOVALEVA, Z.N.

Some clinical characteristics in the course of influenza during
the 1959 epidemic. Voen.med.gazet. no.11:72 N '61. (MIRA 15:6)
(INFLUENZA)

KOSHTOYANTS, KH. S.

DECEASED

1962/4

c1961

SEE ILC

PHYSIOLOGY

KOSHTOYANTS, Khachatur Sergeyevich; TURPAYEV, T.M., doktor biol.
nauk, otv. red.; BUZNIKOV, G.A., red.izd-va; DOROKHINA,
I.N., tekhn. red.

[Problems of the enzyme chemistry of stimulation and inhibition processes and the evolution of the functions of the nervous system] Problemy enzimokhimii protsessov возбуждения i tormozheniia i evoliutsii funktsii nervnoi sistemy; dolozheno na semnadtsatom ezhegodnom Bakhovskom chtenii 17 marta 1961 goda. Moskva, Izd-vo AN SSSR, 1963. 30 p. (Bakhovskie chteniia, no.17) (MIRA 16:12)
(ENZYMES) (NERVOUS SYSTEM)

GUBERNIYEV, N.A.; UGOLEVA, N.A.; BUYANOVSKAYA, I.S.; SHNEYERSON, A.N.;
KOSHTOYANTS, N.D.; ANDREYEVA, N.A.

Studying the nucleic acid and nucleoproteins content of Staphylococcus aureus 209-P, sensitive and resistant to different antibiotics.
Biokhimiia 25 no. 5:884-890 S-O '60. (MIRA 14:1)

1. The Union Research Institute of Antibiotics, Moscow.
(STAPHYLOCOCCUS AUREUS) (NUCLEIC ACIDS)
(ANTIBIOTICS)

feeding of the larvae. N. M. Krasnykh, V. V. Kozlovskaya, *Doklady Akad. Nauk SSSR*, 1977, 237, 177 (1978), in Russian. The authors found that the activity of the larvae of *C. glabrata* is higher in the medium with a pH of 3.5 than in the medium with a pH of 7.0. The highest activity is shown by the larvae at a temperature of about 70°.

Country : USSR
Category: Human and Animal Physiology. Nervous System.
Cerebral Cortex.

T

Abs Jour: RZhBiol., No 19, 1958, 89207

Author : Aladzhalova, N.A.; Koshtoyants, O. K.

Inst : -

Title : Investigation with the Aid of the Microelectrode
Technique of the Quasi-Constant Potential and its
Ultralow Fluctuations at Different Levels of the
Cerebral Cortex.

Orig Pub: Biofizika, 1957, 2, No 3, 327-335

Abstract: Following insertion of a non-polarizing micro-
electrode (8-12 μ) into the cortex of the hemispheres
of a rabbit an augmentation was noted of the constant
negative potential (in relation to the surface of the

Card : 1/2

T-90

ALADZHALOVA, N.A.; KOSHTOYANTS, O.Kh.

Ultralow rhythmic oscillations of potential in isolated cerebral cortex strips. Fiziol.zhur. 46 no.1:1-8 Ja '60. (MIRA 13:5)

1. From the U.S.S.R. Academy of Sciences Institute of Biological Physics, Moscow.
(CEREBRAL CORTEX physiol.)

42708

S/020/62/147/002/021/021
B144/B101

27.1140

AUTHORS: Aladzhalsova, N. A., Koshtoyants, O. Kh.

TITLE: Electric activity of an isolated layer of apical dendrites of the brain cortex

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 2, 1962, 505 - 508

TEXT: A strip of dendrites 4.6 mm^2 in area and $150 \times 200 \mu$ thick was isolated from the cell body layer of the cerebral cortex of rabbits paralyzed with diaplacin, the blood circulation through the pia mater being preserved. Its electric activity on stimulation with acute-angled pulses of 2 msec, 3 - 25 cps, and 20 v, was analyzed by applying spring-loaded point electrodes. When the axo-dendrite strip is at rest, it does not exhibit any spontaneous electric activity, since no stimuli arrive. The response to individual stimuli is recorded in the form of an initial peak lasting 0.3 - 0.8 msec which reflects the axon salvo, a sharp second negative peak of 0.5 - 0.8 msec indicating the membrane potential of the dendrite, and of a slow negative wave of 5 - 10 msec representing the postsynaptic potential. This as well as the membrane potential decreases when the

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Electric activity of ...

S/020/62/147/002/021/021
B144/B101

stimulus intensifies. With a certain stimulus intensity the slow wave becomes positive. Spontaneous activity of varying low frequencies (2 - 14 cps) can be induced by stimulation with 15 cps current for 5 - 10 sec, but appears only 40 - 120 sec after cessation of the stimuli. A similar effect of longer duration including also discharges of 30 - 40 cps was obtained in the isolated cortex. The hyperslow potential oscillations (1.5 - 8 per min; 0.5 - 2 mv) observed in the axo-dendrite strip were inhibited by electric stimulation. Hence, the layer of apical dendrites has an autonomous activity, and the absence of high-frequency oscillations in this layer supports the hypothesis of E. D. Adrian (J. Physiol., 88, 127 (1936)) that the high-frequency components of the EEG reflect the activity of cells. The nature of the latent period must still be cleared up; it may be due to an increase in sensitivity owing to slight depolarization, which supports the circulation of subliminal stimuli and results finally in the manifestation of the activity. There are 3 figures.

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR
(Institute of Biological Physics of the Academy of Sciences USSR)

Card 2/3

Electric activity of ...

S/020/62/147/002/021/021
B144/B101

PRESENTED: May 7, 1962, by V. N. Chernigovskiy, Academician

SUBMITTED: April 29, 1962

Card 3/3

S/081/62/000/013/003/054
B158/B144

AUTHORS: Belyayev, L. M., Koshuashvili, M. V., Chernyshev, K. S.,
Gorshteyn, G. I., Nechayeva, V. S.

TITLE: Growing crystals of lead fluoride and chloride

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 13, 1962, 44, abstract
13B252 (Sb. "Most kristallov. v. 3". M., AN SSSR, 1961,
338 - 341)

TEXT: Crystals of PbF_2 with a diameter of several cm are obtained in an N_2 atmosphere using Stockbarger's method. Special measures are taken for complete removal of moisture from the apparatus and reagents. In the crystallization process, Ar was passed through the furnace at a pressure of 0.1 atm. Best results were obtained when the crucible was lowered at a speed of 6 mm/hr. From various crucibles tested the best were found to be of graphite. Single crystals of $PbCl_2$ were obtained by Obreimov and Shubnikov's method. The crystals are grown in sealed glass ampoules, which

Card 1/2

BULGARIA/Chemical Technology - Fermentation Industry.

H-27

Abs Jour : Ref Zhur - Khimiya, No 24, 1958, 83339

Author : Koshukharov, I.

Inst : -

Title : The Present and Future Production of Vinegar in Bulgaria.

Orig Pub : Lozarstvo i vinarstvo, 1958, 7, No 2, 48-51.

Abstract : The development of vinegar production in NBR [Bulgarian People's Republic] since 1947 and up to the present time is described. The highlights of its reconstruction in the future are discussed.

Card 1/1

USSR / General Problems of Pathology. Immunity.

U

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825110019-4"

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102382.

Author : Koshukov, S. D.

Inst : Siberian Scientific Research Institute of Veterinary Science.

Title : The Reaction of Mesenchymal Elements in Sheep Immunized Through the Uninjured Conjunctiva with Live Brucella Vaccine.

Orig Pub: Byul. nauchno-tekhn. inform. Sibirsk. n.-i. vet. in-ta, 1957, No 2, 7-9.

Abstract: Healthy ewe lambs of ages of less than 1 year were immunized into the conjunctival sac (CS) with live vaccine of Brucella (strain 19) in a dose of 10 billion microbe bodies. The animals were killed after 1-90 days. In vaccination through the conjunctiva the changes in the lymph nodes (LN), liver,

Card 1/2

KOSHUKOV, S.D., aspirant

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